

Master in Electronics, electrical energy, automation

Electrical Engineering and Control Systems / MiSCIT 2nd year

Presentation

Control and information technology components are increasingly used in complex engineering systems. The pervasive infiltration of computer systems (embedded systems and networks) in engineered products and in society requires new insights and ideas in engineering research, education and entrepreneurship. Model-based system integration methodology combined with an overall emphasis on compositional design methodology then appears as a crucial issue in modern process automation and research in automatic control. The proposed curriculum consequently includes advanced topics in control-oriented modeling, systems theory, supervision communication networks and real-time operation, along with the more classical multi-objective and discrete-events control issues. The aim is to provide high level knowledge and skills for research and developments (R&D) in process automation, from the latest theories to their applications.

<http://www.gipsa-lab.fr/MiSCIT/home/>

Registration and scholarships

Access conditions

This two-semester program is a specialty (second and last year, master 2nd year in the French system) of the master EEATS. The French master is 2 year, but when you apply a centralized University board examines your application to grant you, if suitable, the first year as equivalent and at the end of the one-year MiSCIT program you obtain a diploma corresponding to 2 years of studies (master EEATS, MiSCIT specialty diploma).

Eligibility for students

- at least 180 ECTS for the students in an exchange program who wish to join MiSCIT for one semester in order to validate specific classes in their home institution
- at least 240 ECTS (typically 4 years of university studies) for students wishing to validate the master 2nd level

For students from foreign countries who completed a full bachelor program of 4 years or more, your application will be evaluated by a specific jury (called the *Commission de Validation des Acquis*).

Requirement : In order to apply to this master program, the prospective student should hold a master 1st year, bachelor or equivalent degree completed after four full years of university studies, have followed basic classes in Automatic control, prove an English proficiency with CEFR (B2), TOEFL (IBT 87-109), IELTS (5.5-6.5), TOEIC (785-945) or [equivalent](#). Students coming from English-speaking countries or/and who had a university curriculum in English are considered proficient enough. If you don't have the opportunity to take the test in your home University, an English test is organized during the first week of the classes, to check the level of everyone.

For candidates whose country of residence is not included in the "Studies in France" portal (PEF) scheme, the calendar for the eCandidat application campaigns is available [here](#).

For more informations : www.gipsa-lab.fr/MiSCIT/admission.php

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed training under the continuous training regime one of the previous 2 years

- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a [validation of personal and professional achievements \(VAPP\)](#)

[skin.odf-uga:SKIN_ODF_CONTENT_PROGRAM_CANDIDATURE_LABEL](#)

You want to apply and sign up for a Master?

Let us be your guide – simply follow this [link](#)

Expenses

Tuition fees 2023-2024: 243 €+100€ CVEC

Practicals informations :

- > Component : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > Location(s) : Grenoble - University campus

Contacts

Program director

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Program

Master 2nd year

Semester 9 OPTION IPA

UE Multi-objective control	6 ECTS
UE Modeling and system identification	3 ECTS
UE Adaptive control systems	3 ECTS
UE Embedded control and modeling labs	3 ECTS
UE Supervision and diagnosis	3 ECTS
UE Network applications	6 ECTS
UE Design project 1	3 ECTS

1 option(s) to choose from 2

UE English	3 ECTS
UE French as a foreign language	3 ECTS

Semester 9 OPTION CST

UE Multi-objective control	6 ECTS
UE Modeling and system identification	3 ECTS
UE Adaptive control systems	3 ECTS
UE Nonlinear and predictive control	6 ECTS

UE Design project 1	3 ECTS
1 option(s) to choose from 1	
UE Efficient methods in optimization	3 ECTS
UE Modeling and control of PDE	6 ECTS
UE Embedded control and modeling labs	3 ECTS
UE Supervision and diagnosis	3 ECTS
1 option(s) to choose from 1	
French as a foreign language	3 ECTS
UE English	3 ECTS

Semester 10 OPTION IPA

UE Project management and seminars	3 ECTS
UE Internship	24 ECTS
UE Systems Reliability and Maintenance	3 ECTS

Semester 10 OPTION CST

UE Project management and seminars	3 ECTS
UE Internship	24 ECTS
UE reinforcement learning and optimal control	3 ECTS